

SEQUENCE LISTING

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<110> Cahoon, Rebecca E.
Miao, Guo-Hua
Herrman, Rafael
Rafalski, Antoni
McCutchen, Bill F.

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Ala Pro Glu Tyr Glu Glu Ala Ala Thr Thr Leu Lys Glu Lys Asn Ile
50 55 60
Lys Leu Ala Lys Ile Asp Cys Thr Glu Glu Ser Asp Leu Cys Lys Asp
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35 40 45

Pro Glu Lys Gln Asp Gly Pro Val Tyr Val Leu Val Gly Lys Asn Phe
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Glu Ser Ile Val Met Asp Glu Thr Lys Asp Val Leu Val Glu Phe Tyr
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Ala Pro Trp Cys Gly His Cys Lys Thr Leu Ala Pro Lys Tyr Asp Ala
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Leu Gly Glu Ser Phe Lys Ser Asn Pro Asn Val Ile Ile Ala Lys Ile
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 35 40 45
 Ala Ala Leu Gly Ala Ile Asp Phe Leu Phe Val Asp Phe Tyr Ala Pro
 50 55 60
 Trp Cys Gly His Cys Lys Arg Leu Ala Pro Glu Leu Asp Glu Ala Ala
 65 70 75 80
 Pro Val Leu Ser Gly Leu Ser Glu Pro Ile Val Val Ala Lys Val Asn
 85 90 95
 Ala Asp Lys Tyr Arg Lys Leu Gly Ser Lys Tyr Gly Val Asp Gly Phe
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 Pro Thr Leu Met Leu Phe Ile His Gly Val Pro Ile Glu Tyr Thr Gly
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 Ser Arg Lys Ala Asp Gln Leu Val Arg Asn Leu Lys Lys Phe Val Ser
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 Pro Asp Val Ser Ile Leu Glu Ser Asp Ser Ala Ile Lys Asn Phe Val
 145 150 155 160
 Glu Asn Ala Gly Ile Ser Phe Pro Ile Phe Leu Gly Phe Gly Val Asn
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 Asp Ser Leu Ile Ala Glu Tyr Gly Arg Lys Tyr Lys Lys Arg Ala Trp
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 Phe Ala Val Ala Lys Asp Phe Ser Glu Asp Ile Met Val Ala Tyr Glu
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 Phe Asp Lys Val Pro Ala Leu Val Ala Ile His Pro Lys Tyr Lys Glu
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 Gln Ser Leu Phe Tyr Gly Pro Phe Glu Glu Asn Phe Leu Glu Asp Phe
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 Leu Lys Met Leu Asn Asp Asp Gln Arg Lys Val Val Leu Thr Ile Leu
 260 265 270
 Glu Asp Asp Ser Asp Glu Asn Ser Thr Gln Leu Val Lys Ile Leu Arg
 275 280 285
 Ser Ala Ala Asn Ala Asn Arg Asp Leu Val Phe Gly Tyr Val Gly Ile
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 Lys Gln Trp Asp Gly Phe Val Glu Thr Phe Asp Val Ser Lys Ser Ser
 305 310 315 320

Gln Leu Pro Lys Leu Leu Val Trp Asp Arg Asp Glu Glu Tyr Glu Leu
325 330 335

Val Asp Gly Ser Glu Arg Leu Glu Glu Gly Asp Gln Ala Ser Gln Ile
340 345 350

Ser Gln Phe Leu Glu Gly Tyr Arg Ala Gly Arg Thr Thr Lys Lys Lys
355 360 365

Ile Thr Gly Pro Ser Phe Met Gly Phe Leu Asn Ser Leu Val Ser Leu
370 375 380

Asn Ser Leu Tyr Ile Leu Ile Phe Val Ile Ala Leu Leu Phe Val Met
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<212> DNA

<213> Momordica charantia

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Ala Pro Glu Val Asp Glu Lys Asp Val Val Val Leu Lys Glu Gly Asn
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Phe Ser Asp Phe Val Glu Lys Asn Arg Phe Val Met Val Glu Phe Tyr
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Ala Pro Trp Cys Gly His Cys Gln Ala Leu Ala Pro Glu Tyr Ala Ala
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Ala Ala Thr Glu Leu Lys Gly Glu Asn Val Val Leu Ala Lys Val Asp
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Ala Thr Glu Glu Asn Glu Leu Ser Gln Lys Tyr Asp Val Gln Gly Phe
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Gln Arg Thr Lys Asp Ala Ile Val Thr Trp Ile Lys Lys Lys Ile Gly
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Thr Ser Glu Thr Lys Val Val Leu Gly Tyr Leu Asn Ser Leu Val Gly
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Pro Glu Ser Asn Glu Leu Ala Ala Ser Arg Leu Glu Asp Asp Val
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Glu Ala Ser Ala Lys Arg Pro Ala Leu Val Leu Leu Lys Lys Glu Ala
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Glu Lys Leu Asn Arg Phe Asp Gly Glu Phe Ser Lys Ser Ala Ile Ala
245 250 255
Glu Phe Val Phe Ala Asn Lys Leu Pro Leu Val Thr Lys Phe Thr Arg
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Glu Ser Ala Pro Leu Ile Phe Glu Ser Ser Ile Lys Lys Gln Leu Ile
275 280 285

Leu Phe Ala Ile Ser Asn Asp Ser Glu Lys Leu Ile Pro Ile Phe Glu
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Glu Ser Ser Lys Ser Phe Lys Gly Lys Leu Ile Phe Val Tyr Val Glu
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Ile Asp Asn Glu Asp Val Gly Lys Pro Val Ser Glu Tyr Phe Gly Ile
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Ser Gly Asn Gly Pro Glu Val Leu Gly Tyr Thr Gly Asn Glu Asp Ser
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Lys Lys Phe Val Leu Ala Lys Glu Val Thr Leu Asp Asn Ile Lys Ala
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Phe Gly Glu Asn Phe Leu Glu Asp Lys Leu Lys Pro Phe Tyr Lys Ser
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Asp Pro Ile Pro Glu Thr Asn Asp Gly Asp Val Lys Val Val Val Gly
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Asp Asn Phe Asp Asn Ile Val Leu Asp Glu Ser Lys Asp Val Leu Leu
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Glu Ile Tyr Ala Pro Trp Cys Gly His Cys Gln Ala Leu Glu Pro Thr
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Tyr Asn Lys Leu Ala Lys His Leu Arg Gly Ile Asp Ser Leu Val Ile
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Ala Lys Met Asp Gly Thr Thr Asn Glu His Pro Arg Ala Lys Ser Asp
450 455 460

Gly Phe Pro Thr Ile Leu Phe Phe Pro Ala Gly Asn Lys Ser Phe Asp
465 470 475 480

Pro Ile Thr Val Asp Thr Asp Arg Thr Val Val Ala Leu Tyr Lys Phe
485 490 495

Ile Lys Lys Asn Ala Ser Ile Pro Phe Lys Leu Gln Lys Pro Val Ser
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<212> DNA

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Ile Pro Thr Asn Asp Pro Asp Gly Trp Pro Glu Gly Asp Tyr Asp Asp
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Asp Asp Leu Leu Phe Gln Asp Gln Asp Leu Thr Gly His Gln
 65 70 75 80

Pro Glu Ile Asp Glu Thr His Val Val Leu Ala Ala Asn Phe
 85 90 95

Ser Ser Phe Leu Ala Ser Ser His His Val Met Val Glu Phe Tyr Ala
 100 105 110

Pro Trp Cys Gly His Cys Gln Glu Leu Ala Pro Gly Leu Ser Arg Arg
 115 120 125

Arg Ala His Leu Ala Gly Ser Thr Asn Gln Pro Arg Pro Asn Phe Ala
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 Asp Thr Leu Ser Gly Ala His Ser Asp Glu Leu Ala Ala Ala Ser Arg
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 245 250 255
 Lys Leu Phe His Ile Asp Ala Ala Ala Lys Arg Pro Ser Val Val Leu
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 Leu Lys Lys Glu Glu Lys Leu Thr Phe Tyr Asp Gly Glu Phe Lys
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 Ala Ser Ala Ile Ala Gly Phe Val Ser Ala Asn Lys Leu Pro Leu Val
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 Asp Tyr Phe Gly Ile Thr Gly Gln Glu Thr Thr Val Leu Ala Tyr Thr
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 Glu Ala Ile Lys Asp Phe Ala Glu Gly Phe Leu Glu Asp Lys Leu Thr
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Lys Asp Val Leu Leu Glu Ile Tyr Ala Pro Trp Cys Gly His Cys Gln
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Ser Leu Glu Pro Thr Tyr Asn Asn Leu Ala Lys His Leu Arg Ser Val
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Asp Ser Leu Val Val Ala Lys Met Asp Gly Thr Thr Asn Glu His Pro
485 490 495

Arg Ala Lys Ser Asp Gly Tyr Pro Thr Ile Leu Phe Tyr Pro Ala Gly
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Lys Lys Ser Phe Glu Pro Ile Thr Phe Glu Gly Glu Arg Thr Val Val
 515 520 525

Asp Leu Tyr Lys Phe Ile Lys Lys His Ala Ser Ile Pro Phe Lys Leu
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Tyr Phe Gly Ile Ser Gly Asn Ala Pro Lys Val Leu Gly Tyr Thr Gly
20 25 30

Asn Asp Asp Gly Lys Lys Phe Val Leu Asp Gly Glu Val Thr Thr Asp
35 40 45

Lys Ile Lys Ala Phe Gly Glu Asp Phe Val Glu Asp Lys Leu Lys Pro
50 55 60

Phe Tyr Lys Ser Asp Pro Val Pro Glu Ser Asn Asp Gly Asp Val Lys
65 70 75 80

Ile Val Val Gly Asn Asn Phe Asp Glu Ile Val Leu Asp Glu Ser Lys
85 90 95

Asp Val Leu Leu Glu Ile Tyr Ala Pro Trp Cys Gly His Cys Gln Ser
100 105 110

Leu Glu Pro Ile Tyr Asn Lys Leu Ala Lys His Leu Arg Asn Ile Asp
115 120 125

Ser Leu Val Ile Ala Lys Met Asp Gly Thr Thr Asn Glu His Pro Arg
130 135 140

Ala Lys Pro Asp Gly Phe Pro Thr Leu Leu Phe Phe Pro Ala Gly Asn
145 150 155 160

Lys Ser Phe Asp Pro Ile Thr Val Asp Thr Asp Arg Thr Val Val Ala
165 170 175

Phe Tyr Lys Phe Leu Lys Lys His Ala Ser Ile Pro Phe Lys Leu Gln
180 185 190

Lys Pro Thr Ser Thr Ser Glu Ser Asp Ser Lys Gly Ser Ser Asp Ala
195 200 205

Lys Glu Ser Gln Ser Ser Asp Val Lys Asp Glu Leu
210 215 220

<210> 13

<211> 1126

<212> DNA

<213> Glycine max

<400> 13

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ttgaaactct tcaagatgtt gcaaaaacat tcaagtcaaataataatgtgg 180
atattaatga tgagaacacctt gcaaagccct tcttaacattt gtttggctt gaagaatcaa 240
aaaatactgt ggtcgccgca tttgataatg caatgagctc aaaatatttg ttggagacaa 300
aaccacacaca aagcaatattt gaagagttt gcaataacct tttgtcac 360
cttacttcaa gtcacagcca attccagata atacagaatc aagtgtccat gttattgtcg 420
ggaaaaacatt tggatgatggaa atcttgagca gcgagaaggg tttgtcttggaggtat 480
cgcccttggtg catcaactgt gaggccacta gcaagcaagt agagaagttt gcaaagcact 540
acaaaggactt aagtaatcta atatttgcattt ggtatgatgc ttccatcaat 600
aactgcaagt gaatgactac cccacgttc tactttacag agcagacgt aaggcaatc 660
cgatcaactt ttccacaaaa tcttagtttga aaggttggc tgcattccattt aacaaatatg 720
taaaagtcaa gaatcaagtc gtcaaaatgtt agttatagaa catatcaaaa agttttggaa 780
gaaaaacactt taaccatgaa gaaagttttt cattatggaa agaaacaaat attatgtt 840
cttgcgttcaag cattttctaa ttttttattttt cttttccctt gccattttat ggtggccaa 900
atatgatgtt gtcttattttt atttggatgtt gcttactgtt aatgtcgaa agcttagtcaa 960
attataacat gtaatgaact acagaacata cttgatacac caaacattgtt accgatcaac 1020
actttccattt tgcattctcat agaaacctgc aaatcacagg cttaaagttt atgcatttgac 1080
acatatcaaa ctcaagcttt tataattcga aaaaaaaaaaaaaaaa 1126

<210> 14
 <211> 251
 <212> PRT
 <213> Glycine max

<400> 14
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Arg Val Tyr Ser Ser Pro Ile Lys Leu Gln Val Leu Val Phe Ala Asn
 20 25 30

Ile Asp Asp Phe Lys Asn Leu Leu Glu Thr Leu Gln Asp Val Ala Lys
 35 40 45

Thr Phe Lys Ser Lys Ile Met Phe Ile Tyr Val Asp Ile Asn Asp Glu
 50 55 60

Asn Leu Ala Lys Pro Phe Leu Thr Leu Phe Gly Leu Glu Glu Ser Lys
 65 70 75 80

Asn Thr Val Val Ala Ala Phe Asp Asn Ala Met Ser Ser Lys Tyr Leu
 85 90 95

Leu Glu Thr Lys Pro Thr Gln Ser Asn Ile Glu Glu Phe Cys Asn Asn
 100 105 110

Leu Val Gln Gly Ser Leu Ser Pro Tyr Phe Lys Ser Gln Pro Ile Pro
 115 120 125

Asp Asn Thr Glu Ser Ser Val His Val Ile Val Gly Lys Thr Phe Asp
 130 135 140

Asp Glu Ile Leu Ser Ser Glu Lys Asp Val Leu Leu Glu Val Phe Thr
 145 150 155 160

Pro Trp Cys Ile Asn Cys Glu Ala Thr Ser Lys Gln Val Glu Lys Leu
 165 170 175

Ala Lys His Tyr Lys Gly Ser Ser Asn Leu Ile Phe Ala Arg Ile Asp
 180 185 190

Ala Ser Ala Asn Glu His Pro Lys Leu Gln Val Asn Asp Tyr Pro Thr
 195 200 205

Leu Leu Leu Tyr Arg Ala Asp Asp Lys Ala Asn Pro Ile Lys Leu Ser
 210 215 220

Thr Lys Ser Ser Leu Lys Glu Leu Ala Ala Ser Ile Asn Lys Tyr Val
 225 230 235 240

Lys Val Lys Asn Gln Val Val Lys Asp Glu Leu
 245 250

<210> 15
 <211> 1943
 <212> DNA
 <213> Glycine max

<400> 15

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 cttgctgtcg cttcaagact tgaggatgt gtcaattttt atcaaactgt ggatcctgtat 720
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 aggagacaaa tgcgaggcac atatgtatta ctatcaactt aaatttttac aactgggcat 1860
 tttagaattt tgggttgaga cttcaataaaa ttccccctt aattttaaaa aaaaaaaaaa 1920
 aaaaaaaaaac tcgagacttag ttc 1943

<210> 16
 <211> 551
 <212> PRT
 <213> Glycine max

<400> 16

Met	Arg	Ile	Leu	Val	Val	Leu	Ser	Leu	Ala	Thr	Leu	Leu	Phe	Ser
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Ser	Leu	Phe	Leu	Thr	Leu	Cys	Asp	Asp	Leu	Thr	Asp	Asp	Glu	Asp	Leu
					20			25				30			

Gly	Phe	Leu	Asp	Glu	Pro	Ser	Ala	Ala	Pro	Glu	His	Gly	Tyr	His
					35			40			45			

Asp	Asp	Asp	Ala	Asn	Phe	Gly	Asp	Phe	Glu	Glu	Asp	Pro	Glu	Ala	Tyr
					50			55			60				

Lys	Gln	Pro	Glu	Val	Asp	Glu	Lys	Asp	Val	Val	Ile	Leu	Lys	Glu	Lys
					65			70			75			80	

Asn	Phe	Thr	Asp	Thr	Val	Lys	Ser	Asn	Arg	Phe	Val	Met	Val	Glu	Phe
					85			90				95			

Tyr Ala Pro Trp Cys Gly His Cys Gln Ala Leu Ala Pro Glu Tyr Ala
 100 105 110
 Ala Ala Ala Thr Glu Leu Lys Gly Glu Asp Val Ile Leu Ala Lys Val
 115 120 125
 Asp Ala Thr Glu Glu Asn Glu Leu Ala Gln Gln Tyr Asp Val Gln Gly
 130 135 140
 Phe Pro Thr Val His Phe Phe Val Asp Gly Ile His Lys Pro Tyr Asn
 145 150 155 160
 Gly Gln Arg Thr Lys Asp Ala Ile Val Thr Trp Ile Gly Lys Lys Ile
 165 170 175
 Gly Pro Gly Ile Tyr Asn Leu Thr Thr Val Glu Asp Ala Gln Arg Ile
 180 185 190
 Leu Thr Asn Glu Thr Lys Val Val Leu Gly Phe Leu Asn Ser Leu Val
 195 200 205
 Gly Pro Glu Ser Glu Glu Leu Ala Ala Ala Ser Arg Leu Glu Asp Asp
 210 215 220
 Val Asn Phe Tyr Gln Thr Val Asp Pro Asp Val Ala Lys Leu Phe His
 225 230 235 240
 Ile Asp Pro Asp Val Lys Arg Pro Ala Leu Ile Leu Val Lys Lys Glu
 245 250 255
 Glu Glu Lys Leu Asn His Phe Asp Gly Lys Phe Glu Lys Ser Glu Ile
 260 265 270
 Ala Asp Phe Val Phe Ser Asn Lys Leu Pro Leu Val Thr Ile Phe Thr
 275 280 285
 Arg Glu Ser Ala Pro Ser Val Phe Glu Asn Pro Ile Lys Lys Gln Leu
 290 295 300
 Leu Leu Phe Ala Thr Ser Asn Asp Ser Glu Lys Leu Ile Pro Ala Phe
 305 310 315 320
 Lys Glu Ala Ala Lys Ser Phe Lys Gly Lys Leu Ile Phe Val Tyr Val
 325 330 335
 Glu Met Asp Asn Glu Asp Val Gly Lys Pro Val Ser Glu Tyr Phe Gly
 340 345 350
 Ile Ser Gly Asn Ala Pro Lys Val Leu Gly Tyr Thr Gly Asn Asp Asp
 355 360 365
 Gly Lys Lys Phe Val Leu Asp Gly Glu Val Thr Ala Asp Lys Ile Lys
 370 375 380
 Ala Phe Gly Asp Asp Phe Leu Glu Asp Lys Leu Lys Pro Phe Tyr Lys
 385 390 395 400
 Ser Asp Pro Val Pro Glu Ser Asn Asp Gly Asp Val Lys Ile Val Val
 405 410 415

Gly Asn Asn Phe Asp Glu Ile Val Leu Asp Glu Ser Lys Asp Val Leu
420 425 430

Leu Glu Ile Tyr Ala Pro Trp Cys Gly His Cys Gln Ala Leu Glu Pro
435 440 445

Ile Tyr Asp Lys Leu Ala Lys His Leu Arg Asn Ile Glu Ser Leu Val
450 455 460

Ile Ala Lys Met Asp Gly Thr Thr Asn Glu His Pro Arg Ala Lys Pro
465 470 475 480

Asp Gly Phe Pro Thr Leu Leu Phe Phe Pro Ala Gly Asn Lys Ser Phe
485 490 495

Asp Pro Ile Thr Val Asp Thr Asp Arg Thr Val Val Ala Phe Tyr Lys
500 505 510

Phe Leu Lys Lys His Ala Ser Ile Pro Phe Lys Leu Gln Lys Pro Thr
515 520 525

Ser Thr Ser Asp Ala Lys Gly Ser Ser Asp Ala Lys Glu Ser Gln Ser
530 535 540

Ser Asp Val Lys Asp Glu Leu
545 550

<210> 17

<211> 1565

<212> DNA

<213> Triticum aestivum

<400> 17

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ggcttccccca ccgtgctcct cttcgtaat ggcacccgagc acgcctacca tggcctccac 240
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<210> 18
<211> 451
<212> PRT
<213> *Triticum aestivum*

<400> 18
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Glu Arg Ser Ala Gln Leu Met Pro Arg Phe Ala Glu Ala Ala Ala
20 25 30

Leu Arg Ala Met Gly Ser Ala Val Ala Phe Ala Lys Leu Asp Gly Glu
35 40 45

Arg Tyr Pro Lys Ala Ala Ala Val Gly Val Lys Gly Phe Pro Thr
50 55 60

Val Leu Leu Phe Val Asn Gly Thr Glu His Ala Tyr His Gly Leu His
65 70 75 80

Thr Lys Asp Ala Ile Val Thr Trp Val Arg Lys Lys Thr Gly Glu Pro
85 90 95

Ile Ile Arg Leu Gln Ser Lys Asp Ser Ala Glu Glu Phe Leu Lys Lys
100 105 110

Asp Met Thr Phe Val Ile Gly Leu Phe Lys Asn Phe Glu Gly Ala Asp
115 120 125

His Glu Glu Phe Val Lys Ala Ala Thr Thr Asp Asn Glu Val Gln Phe
130 135 140

Val Glu Thr Ser Asp Thr Arg Val Ala Lys Val Leu Phe Pro Gly Ile
145 150 155 160

Thr Ser Glu Glu Lys Phe Val Gly Leu Val Lys Ser Glu Pro Glu Lys
165 170 175

Phe Glu Lys Phe Asp Gly Lys Phe Glu Glu Thr Glu Ile Leu Arg Phe
180 185 190

Val Glu Leu Asn Lys Phe Pro Leu Ile Thr Val Phe Thr Glu Leu Asn
195 200 205

Ser Gly Lys Val Tyr Ser Ser Pro Ile Lys Leu Gln Val Phe Thr Phe
210 215 220

Ala Glu Ala Tyr Asp Phe Glu Asp Leu Glu Ser Met Val Glu Glu Ile
225 230 235 240

Ala Arg Ala Phe Lys Thr Lys Ile Met Phe Ile Tyr Val Asp Thr Ala
245 250 255

Glu Glu Asn Leu Ala Lys Pro Phe Leu Thr Leu Tyr Gly Leu Glu Ser
260 265 270

Glu Lys Lys Pro Thr Val Thr Ala Phe Asp Thr Ser Asn Gly Ala Lys
275 280 285

Tyr Leu Met Glu Ala Asp Ile Asn Ala Asn Asn Leu Arg Glu Phe Cys
290 295 300

Leu Ser Leu Leu Asp Gly Thr Leu Pro Pro Tyr His Lys Ser Glu Pro
305 310 315 320

Leu Pro Gln Glu Lys Gly Leu Ile Glu Lys Val Val Gly Arg Thr Phe
325 330 335

Asp Ser Ser Val Leu Glu Ser His Gln Asn Val Phe Leu Glu Val His
340 345 350

Thr Pro Trp Cys Val Asp Cys Glu Ala Ile Ser Lys Asn Val Glu Lys
355 360 365

Leu Ala Lys His Phe Ser Gly Ser Asp Asn Leu Lys Phe Ala Arg Ile
370 375 380

Asp Ala Ser Val Asn Glu His Pro Lys Leu Lys Val Asn Asn Ser Pro
385 390 395 400

Thr Leu Phe Leu Tyr Leu Ala Glu Asp Lys Asn Asn Pro Ile Lys Leu
405 410 415

Ser Lys Lys Ser Ser Val Lys Asp Met Ala Lys Leu Ile Lys Glu Lys
420 425 430

Leu Gln Ile Pro Asp Val Glu Thr Val Ala Ala Pro Asp Asn Val Lys
435 440 445

Asp Glu Leu
450

<210> 19

<211> 1078

<212> DNA

<213> Triticum aestivum

<400> 19

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ttttgctgtt tgctgttgcg aaggagtctt caaaatttct gcccattcatt aaggaaacag 180
caaaatcatt caagggaaag cttttatgg tctttgttgcg gcgtgacaat gaggaagttg 240
gcgaacctgt tgccaaattac ttggaaattt ctggacaaga gaccacgggtt cttgcttaca 300
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aggaatttgc tcaagatttc atggaggaca agtcacaccatc tctgaccatc 420
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agtcaacttgc gcttatctac aacaagctgg ccaagttactt ccgtggcatc gactcccttg 600
taatagccaa aatggacggc acaaaacatgc agcatccctcg tgccaaagccc gatgggttcc 660
ccacgataact cttctacccca gctggaaaga aaagcttgc gcctataact ttcgagggggg 720
gccggacagt ggttagagatg tacaagttcc tcaagaagca tgccggccatc ctttcaagc 780
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<211> 294
<212> PRT
<213>. Triticum aestivum

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20 25 30
Asp Asn Pro Ile Lys Lys Gln Ile Leu Leu Phe Ala Val Ala Lys Glu
35 40 45
Ser Ser Lys Phe Leu Pro Ile Ile Lys Glu Thr Ala Lys Ser Phe Lys
50 55 60
Gly Lys Leu Leu Phe Val Phe Val Glu Arg Asp Asn Glu Glu Val Gly
65 70 75 80
Glu Pro Val Ala Asn Tyr Phe Gly Ile Thr Gly Gln Glu Thr Thr Val
85 90 95
Leu Ala Tyr Thr Gly Asn Glu Asp Ala Lys Lys Phe Phe Phe Thr Gly
100 105 110
Glu Ile Ser Leu Asp Thr Ile Lys Glu Phe Ala Gln Asp Phe Met Glu
115 120 125
Asp Lys Leu Thr Pro Ser Tyr Lys Ser Asp Pro Val Pro Glu Ser Asn
130 135 140
Asp Glu Asp Val Lys Val Val Gly Lys Ser Leu Asp Gln Ile Val
145 150 155 160
Leu Asp Glu Ser Lys Asp Val Leu Leu Glu Ile Tyr Ala Pro Trp Cys
165 170 175
Gly His Cys Gln Ser Leu Glu Pro Ile Tyr Asn Lys Leu Ala Lys Tyr
180 185 190
Leu Arg Gly Ile Asp Ser Leu Val Ile Ala Lys Met Asp Gly Thr Asn
195 200 205
Asn Glu His Pro Arg Ala Lys Pro Asp Gly Phe Pro Thr Ile Leu Phe
210 215 220
Tyr Pro Ala Gly Lys Lys Ser Phe Glu Pro Ile Thr Phe Glu Gly Gly
225 230 235 240
Arg Thr Val Val Glu Met Tyr Lys Phe Leu Lys Lys His Ala Ala Ile
245 250 255
Pro Phe Lys Leu Lys Arg Pro Asp Ser Ser Ala Ala Arg Thr Asp Ser
260 265 270
Ala Glu Gly Pro Gly Ser Thr Thr Asp Ser Glu Lys Ser Ser Gly Ser
275 280 285

Asn Pro Lys Asp Glu Leu
290